In response to the Examiner's objections, appropriate claim amendments and specification changes are submitted herein. Applicant traverses the rejection for at least the following reasons.

The present invention is directed to a fuel injection valve. A rubber ring is provided between a core and a sleeve adapted to seal the fuel valve. In the prior art valves, the pressure change in the valve causes a bounce in the needle that causes an after-dripping effect. The ring allows the after-dripping to be reduced because it dampens the bouncing of the needle and allows for better combustion.

Applicant submits that 1) *Cerney et al.* and *Beatty et al.*, either alone or in combination, fail to teach or suggest all the elements of the claims, and 2) the Examiner has used impermissible hindsight in concluding that one of ordinary skill in the art would place an elastic member of *Beatty et al.* near each of the O-rings of *Cerny et al.* to reduce the pressure applied to each of the O-rings.

The Examiner mistakenly believes that Applicant believes that it was indicated, in the Office Action of May 22, 2000, that the buffer zone is identified by reference number "86". Thus, the Examiner points out that he identified the buffer zone as "the area of *Cerny et al.* figure 2 designated with reference number 86' (eighty six prime)." *See Office Action, paragraph 6.* The Examiner has completely misinterpreted Applicant's argument. Applicant understands the Examiner's contention that the element "**86**"' refers to a "buffer zone." However, the Examiner is incorrect in this understanding. The reference number 86' clearly refers to the end of a coil, and not a buffer zone. *See Cerny, col. 4, lines 59-61 ("The opposite ends 86' and 86'' of the coil 86 are connected to a pair of electrical terminals...").* Thus, all the claim limitations of claims 2 and 6 are not disclosed, taught, or suggested by either of the cited references, either alone or in combination with one another, and, therefore, the cited references cannot render claims 2 and 6 obvious.

Cerny et al. is directed to a fuel injector that allows for fine atomization of fuel even at the initiation of the valve opening. *Beatty et al.* is directed to a fluid seal for high pressures within a fuel injector. *Beatty et al.* discloses the use of an elastic member (130, 230) within a

groove (125, 225) to attenuate the pressure seen by the O-ring (24) so that the life of the O-ring may be extended. The reference is silent with respect to the bounce of the needle value and the problems caused thereby.

Claim 6 recites, in part, "a buffer portion for damping a change of fuel pressure caused by valve bounce when the needle valve is closed." In the previous Amendment of August 8, 2000, Applicant argued that "damping a change of fuel pressure caused by the valve bounce when the needle valve is closed" is not shown by in the prior art. The Examiner now alleges, in response, that this limitation is considered to "be an intended use of the buffer portion and is not considered to be a positively claimed limitation." Applicant submits that "damping a change of fuel pressure caused by the valve bounce when the needle valve is closed" is clearly directed to an element, a "buffer portion," and that it specifically recites that which is required of the structure.

Also, neither *Cerney et al.* nor *Beatty et al.*, either alone or in combination, teach or suggest the claimed "fuel passage," as recited in claim 6. That is, the cited references do not teach or suggest a space between sleeve 17 and core 4.

Applicant submits that the Examiner has failed to show that the references teach or suggest a buffer portion with the function recited in claim 6. While *Beatty et al.* does teach the use of an elastic member, there is no teaching or suggestion that this portion acts as a "buffer portion for damping a change in fuel pressure." The function of damping in claim 6 is important because it is through damping that the fuel pressure changes caused by valve bounce are attenuated. Therefore, Applicant submits that at least this element of the claims at issue is neither taught or suggested.

Even if, *arguendo*, the elastic member of *Beatty et al.* could be thought of as a damping member, it does not function as required by the claims. The pressures relieved in *Beatty et al.* are not the same or equivalent to those described in claim 6, and the elastic member of *Beatty et al.* does not function as required by the present claims. For at least this reason, Applicant submits

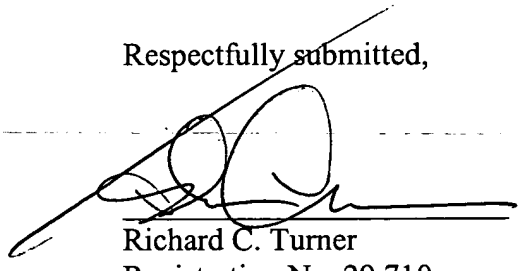
that the references fail to teach or suggest all of the elements of claims 2 and 6, and that the rejections are improper and should be withdrawn.

Lastly, even if, *arguendo*, the elastic member of *Beatty et al.* does function as required by the claims of the present invention, the Examiner has used impermissible hindsight reasoning in concluding that "placing an elastic member of *Beatty et al.* near each of the O-rings of *Cerny et al.* to reduce the pressure applied to each of the O-rings" is within the knowledge of one of ordinary skill in the art. Absent a showing or suggestion (to combine the references as proposed by the Examiner) in the prior art, the Examiner can do no more than piece the invention together using the prior art references and the Applicant's patent application as a template. *See In re Zurko*, 111 F.3d 887, 42 USPQ2d 1475 (Fed. Cir. 1997); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). In the present case, the Examiner has merely taken two separate references and assembled them using Applicant's application as a blueprint.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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Date: January 19, 2001

Appendix
U.S. Appln. No. 09/413,348

IN THE SPECIFICATION:

Page 10, line 22, delete "bounds" and insert --bounces--;

delete "bound" and insert --bounce--;

line 3 from the bottom, delete "bound" and insert --bounce--.

IN THE CLAIMS

2. (Twice Amended) A fuel injection valve according to claim 6, wherein an elastic member is provided between a sleeve and said core in order to form said buffer portion, said sleeve disposed between a core and a valve holder of [a] the solenoid [, and said core, to form said buffer portion].

3. (Twice Amended) A fuel injection valve according to claim 6, wherein an elastic member is provided between a sleeve and said core in order to form said buffer portion, said sleeve disposed between a valve holder and a valve holder of the solenoid and extending to the outer periphery of said valve holder[, and said core, to form said buffer portion].

Please add the following claim:

--7. A fuel injection valve for opening and closing a needle valve by driving an armature by a solenoid, comprising, damping means for damping a change of fuel pressure caused by valve bounce when the needle is closed, said damping means being disposed at a position at which said damping means faces and contacts a fuel passage located at an upstream side with respect to an end face of said armature located on a side of a nozzle opening side.--